Safety Attribute Inspection (SAI) Data Collection Tool
1.3.20 Engine Condition Monitoring (AW)

ELEMENT SUMMARY INFORMATION

Purpose of this Element (certificate holder's responsibility):

- To provide an Engine Condition Monitoring program that includes a system for data collection and analysis that ensures timely analysis and correction of engine problems.

Objective (FAA oversight):

- To determine if the certificate holder's Engine Condition Monitoring program meets all applicable requirements of Title 14 of the Code of Federal Regulations (14 CFR) and FAA policies.
- To determine if the certificate holder's Engine Condition Monitoring program incorporates the safety attributes.
- To identify any shortfalls in the certificate holder's Engine Condition Monitoring program.

Specific Instructions:

- Intentionally left blank

SUPPLEMENTAL INFORMATION

Specific Regulatory Requirements (SRRs):

- SRRs:
  121.135(a)(1)
  121.135(b)(1)
  121.135(b)(2)
  121.135(b)(3)
  D.086

Related CFRs & FAA Policy/Guidance:

- Related CFRs:
  Intentionally left blank

- FAA Policy/Guidance:
  FAA Order 8300.10, volume 2, chapter 82
  HBAW 95-6A
  Advisory Circular 25-13
  Advisory Circular 120-42A

SAI SECTION 1 - PROCEDURES ATTRIBUTE
Objective: Procedures, instructions, and information contained in the certificate holder's manual are documented methods for accomplishing a process. Policies contained in the certificate holder's manual should establish the certificate holder's compliance posture. Policies may not be stand-alone statements but may be imbedded within procedures, instructions, or information regarding a particular regulatory requirement. The questions in this section of the data collection tool (DCT) are designed to assist the inspector in determining if the certificate holder's manual has documented or prescribed methods of accomplishing the process requirements that provide answers to the associated questions regarding who, what, when, where, and how. This section contains policy questions, procedural questions, and instructional or informational questions pertaining to various types of certificate holder requirements such as actions, prohibitions, or resources (i.e., personnel, facilities, equipment, technical data, etc.).

Tasks	
	To meet this objective, the inspector must accomplish the following tasks:
1.	Review the information listed in the Supplemental Information section of this DCT.
2.	Review the duties and responsibilities for management and other personnel identified by the certificate holder who accomplish the Engine Condition Monitoring program.
3.	Review the certificate holder's manual to ensure that it contains policies, procedures, instructions, and information necessary for the Engine Condition Monitoring program.

Questions		
	To meet this objective, the inspector must answer the following questions:	
1.	Does the content of the certificate holder's manual meet the specific regulatory and FAA policy requirements for a Engine Condition Monitoring program:	
1.1.	Does the certificate holder's Engine Condition Monitoring program comply with guidance contained in FAA Order 8300.10? *Related Design JTIs:* 1. Check that the Certificate Holder's Maintenance Program for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) program which should provide for a system for data collection and analysis that ensures timely analysis and correction of engine problems. *Sources:* HBAW 96-06A Paragraph 5.M 8300.10 Volume 2 Chapter 82 Section 1 Paragraph 5 (c) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 2. Check that the Certificate Holder's Maintenance Program for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) which should be designed to prevent in-flight shutdowns of powerplant systems. *Sources:* HBAW 96-06A Paragraph 5.M 8300.10 Volume 2 Chapter 82 Section 1 Paragraph 5 (c) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 3. Check that the Certificate Holder's Maintenance Program for Aircraft	☐ Yes ☐ No, Explain

	Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) to include scope of program (e.g., data collection and analysis). *Sources:* HBAW 96-06A Paragraph 5.M 8300.10 Volume 2 Chapter 82 Section 2 Paragraph 5 B (2) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 4. Check that the Certificate Holder's Maintenance Program for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) to include notification procedures for deterioration. *Sources:* HBAW 96-06A Paragraph 5.M 8300.10 Volume 2 Chapter 82 Section 2 Paragraph 5 B (2) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 5. Check that the Certificate Holder's Maintenance Program for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) to include deterioration monitoring limits for internal engine parts. *Sources:* HBAW 96-06A Paragraph 5.M 8300.10 Volume 2 Chapter 82 Section 2 Paragraph 5 B (2) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
1.2.	Does the certificate holder's Engine Condition Monitoring program comply with guidance contained in HBAW 95-06A? *Related Design JTIs:* 1. Check that the Certificate Holder's Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) including monitoring of mechanical performance. *Sources:* HBAW 96-06A Paragraph 5.M HBAW 95-6A Paragraph 5 *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 2. Check that the Certificate Holder's Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) including analyzing mechanical performance. *Sources:* HBAW 96-06A Paragraph 5.M HBAW 95-06A Paragraph 5 *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 3. Check that the Certificate Holder's Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased	☐ Yes ☐ No, Explain

	Engines, includes detailed procedures for the engine condition monitoring (ECM) which must control the reliability of systems or equipment based on knowledge gained by analysis of failures or other indications of deterioration. *Sources:* HBAW 96-06A Paragraph 5.M 8300.10 Volume 2 Chapter 66 Section 1 Paragraph 7 A (3) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
1.3.	Does the certificate holder's Engine Condition Monitoring program comply with guidance contained in Advisory Circular (AC) 25-13? *Related Design JTIs:* 1. Check that the Certificate Holder's Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) including conducting periodic takeoff demonstrations using the airplane's takeoff thrust setting. *Sources:* HBAW 96-06A Paragraph 5.M AC 25-13 5 e. *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 2. Check that the Certificate Holder's Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) including periodic takeoff demonstrations events being logged in the airplane's permanent records. *Sources:* HBAW 96-06A Paragraph 5.M AC 25-13 5 e. *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 3. Check that the Certificate Holder's Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) including extending the time intervals between takeoff demonstrations if an approved engine maintenance procedure or an approved engine condition monitoring program is used. *Sources:* HBAW 96-06A Paragraph 5.M AC 25-13 5 e. *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	☐ Yes ☐ No, Explain
1.4.	If applicable, does the certificate holder's Engine Condition Monitoring program comply with guidance contained in AC 120-42A, Extended Range Operations with Two Engine Airplanes (ETOPS)? *Related Design JTIs:* 1. Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased	☐ Yes ☐ No, Explain ☐ Not Applicable

		Engines, includes detailed procedures for the engine condition monitoring (ECM) which should describe the parameters to be monitored. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
	2.	Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) which should describe the method of data collection. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
	3.	Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) which should describe the corrective action process. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
	4.	Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) which should reflect the manufacturers instructions and industry practice. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
	5.	Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) which will be used to detect deterioration at an early stage to allow for corrective action before safe operation is effected. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP);	

	2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 6. Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines system, includes detailed procedures for the engine condition monitoring (ECM) for maintaining engine limit margins so that a prolonged single-engine diversion may be conducted without exceeding approved engine limits (i.e., rotor speeds, exhaust gas temperatures) at all approved power levels and expected environmental conditions. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW) 7. Check that the Certificate Holder's Extended Range Operations with Two-Engine Airplanes (ETOPS) Maintenance Programs for "on wing" and "off wing" maintenance for Aircraft Engines, including Leased Engines, includes detailed procedures for the engine condition monitoring (ECM) which includes engine margins and accounts for the effects of additional engine loading demands (e.g., anti-ice, electrical, etc.) which may be required during the single-engine flight phase associated with a diversion. *Sources:* HBAW 96-06A Paragraph 5.M AC 120-42A APPENDIX 4. 75, 120, and 180 MIN. ETOPS MAINTENANCE REQUIREMENTS (5) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	
2.	Does the certificate holder s manual contain general policies for the Engine Condition Monitoring program that comply with the SRRs? SRRs: 121.135(b)(1); D.086 *Related Design JTIs:* 1. Check that the Certificate Holder's manual includes a general policy regarding the requirement that they are primarily responsible for the airworthiness of its aircraft engines, and parts thereof. *Sources:* 121.135(b)(1) *Interfaces:* 1.1.1(AW); 1.2.3(AW); 1.2.4(AW); 1.3.1(AW); 1.3.2(AW); 1.3.9(AW); 1.3.11(AW); 1.3.14(AW); 1.3.15(AW); 1.3.23(AW); 2.1.1(AW); 2.1.1(OP); 2.1.2(AW); 2.1.2(OP); 2.1.3(AW); 2.1.3(OP); 2.1.4(AW); 2.1.4(OP); 4.2.1(AW)	☐ Yes ☐ No, Explain
3.	Does the certificate holder's manual reference the appropriate Federal Aviation Regulations listed in the Supplemental Information section of this safety attribute inspection (SAI)? SRRs: 121.135(b)(3)	☐ Yes ☐ No, Explain
4.	Does the certificate holder's manual contain the duties and responsibilities for personnel who will accomplish the Engine Condition Monitoring program? SRRs: 121.135(b)(2)	☐ Yes ☐ No, Explain
5.	Does the certificate holder's manual include instructions and information for	☐ Yes

	personnel to meet the requirements of the Engine Condition Monitoring program? SRRs: 121.135(a)(1)	☐ No, Explain

SAI SECTION 1 - PROCEDURES ATTRIBUTE Drop-Down Menu	
1.	No procedures, policy, instructions or information specified.
2.	Procedures or instructions and information do not identify (who, what, when, where, how).
3.	Procedures, policy or instructions and information do not comply with CFR.
4.	Procedures, policy or instructions and information do not comply with FAA policy and guidance.
5.	Procedures, policy or instructions and information do not comply with other documentation (e.g., manufacturer's data, Jeppesen's Charts, etc.).
6.	Procedures, policy or instructions and information unclear or incomplete.
7.	Documentation quality (e.g., unreadable or illegible).
8.	Procedures, policy or instructions and information inconsistent across Certificate Holder manuals (FOM - Flight Operations Manual to GMM - General Maintenance Manual, etc.).
9.	Procedures, policy or instructions and information inconsistent across media (e.g., paper, microfiche, electronic).
10.	Resource requirements incomplete (personnel, facilities, equipment, technical data).
11.	Other.

SAI SECTION 2 - CONTROLS ATTRIBUTE
Objective: Controls are checks and restraints designed into a process to ensure a desired result. The questions in this section of the DCT are designed to assist the inspector in determining if checks and restraints are designed into the process to ensure the desired result is achieved. Controls should be written into the manual system to ensure that the most important manual policies, procedures, or instructions and information will be followed. Controls may be in the form of administrative controls, which are secondary or supplemental written procedures. Like written procedures, administrative controls also need to provide answers to questions regarding who, what, when, where, and how. Controls may also be in the form of engineered controls, such as automated features or mechanical actions or devices (i.e., safety devices, warning devices, etc.).
Tasks
To meet this objective, the inspector must accomplish the following tasks:
1. Review the control questions below.
2. Review the certificate holder's policies, procedures or instructions, and information to gain an understanding of the controls that it has documented.

Questions		
	To meet this objective, the inspector must answer the following questions:	
1.	Are the following controls built into the Engine Condition Monitoring program:	
1.1.	Is there a control or controls in place to ensure the personnel working the program are adequately trained?	☐ Yes ☐ No, Explain
1.2.	Is there a control or controls in place to ensure that the data collected by the Engine Condition Monitoring program produces adequate reports to support the program?	☐ Yes ☐ No, Explain
1.3.	Is there a control or controls in place to ensure that the program is designed to prevent internal failure of the engines it controlled?	☐ Yes ☐ No, Explain
1.4.	Is there a control or controls in place to ensure that corrective action is timely initiated and documented?	☐ Yes ☐ No, Explain
1.5.	Is there a control or controls in place to ensure that takeoff demonstrations are performed and recorded?	☐ Yes ☐ No, Explain
1.6.	Is there a control or controls in place to ensure that the Engine Condition Monitoring parameters are clearly documented?	☐ Yes ☐ No, Explain
2.	Does the certificate holder have a documented method for assessing the impact of any changes made to the controls in the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain

SAI SECTION 2 - CONTROLS ATTRIBUTE Drop-Down Menu	
1.	No controls specified.
2.	Documentation for the controls do not identify (who, what, when, where, how).
3.	Controls incomplete.
4.	Controls could be circumvented.
5.	Controls could be unenforceable.
6.	Resource requirements incomplete (personnel, facilities, equipment, technical data).
7.	Other.

SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE
Objective: Process measurements are used by the certificate holder to measure and assess its processes, to identify and correct problems or potential problems, and to make improvements to the processes. The questions in this section of the DCT are designed to assist the inspector in determining if the certificate holder measures or assesses information to identify, analyze, and document potential problems with the process. Process measurements are a certificate holder's internal evaluation or auditing of the most important policies, procedures, or instructions and information associated with an element. To prevent the duplication of work, process measurements are most commonly addressed through a combination of auditing features contained in both the certificate holder's safety program/internal evaluation program (for operations and cabin safety-related issues) and the auditing function of the Continuous Analysis and Surveillance System (for airworthiness or maintenance/inspection-related issues). The director of safety and the quality assurance department often work together to accomplish this function for the certificate holder. This approach requires amendment of the safety program/internal evaluation program audit forms or checklists and the Continuous Analysis and Surveillance System audit forms or checklists to include the specific process measurements for each element.

Tasks	
	To meet this objective, the inspector must accomplish the following tasks:
1.	Review the process measurement questions below.
2.	Review the certificate holder's policies, procedures or instructions, and information to gain an understanding of the process measurements that it has documented.

Questions		
	To meet this objective, the inspector must answer the following questions:	
1.	Does the certificate holder's Engine Condition Monitoring program include the following process measurements:	
1.1.	Is there a process measurement or process measurements that would identify if the personnel working the program were not adequately trained?	☐ Yes ☐ No, Explain
1.2.	Is there a process measurement or process measurements that would identify if data collected from the Engine Condition Monitoring program did not produce adequate reports to support the program?	☐ Yes ☐ No, Explain
1.3.	Is there a process measurement or process measurements that would identify if the program was not designed to prevent internal failure of the engines it controlled?	☐ Yes ☐ No, Explain
1.4.	Is there a process measurement or process measurements that would identify if the certificate holder's corrective action was not timely and documented?	☐ Yes ☐ No, Explain
1.5.	Is there a process measurement or process measurements that would identify if the certificate holder's full-power takeoff demonstration was not performed and recorded?	☐ Yes ☐ No, Explain
1.6.	Is there a process measurement or process measurements that would identify if the Engine Condition Monitoring parameters were not clearly documented?	☐ Yes ☐ No, Explain
2.	Is there a process measurement or process measurements that would reveal if the certificate holder s policy, procedures, instructions, and information contained in its manual were not followed?	☐ Yes ☐ No, Explain

3.	Does the certificate holder document its process measurement results?	☐ Yes ☐ No, Explain
4.	Does the certificate holder s manual provide for the use of process measurement results to improve its programs?	☐ Yes ☐ No, Explain
5.	Does the organization that conducts the process measurements have direct access to the person with responsibility for the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain

SAI SECTION 3 - PROCESS MEASUREMENT ATTRIBUTE Drop-Down Menu
1. No process measurements specified.
2. Documentation for the process measurements does not identify (who, what, when, where, how).
3. Inability to identify negative findings.
4. No provisions for implementing corrective actions.
5. Ineffective follow-up to determine effectiveness of corrective actions.
6. Resources requirements (personnel, facilities, equipment, technical data).
7. Other.

SAI SECTION 4 - INTERFACES ATTRIBUTE
Objective: Interfaces are used by the certificate holder to identify and manage the interactions between processes. The questions in this section of the DCT are designed to assist the inspector in determining whether or not interactions between the policies, procedures, or instructions and information associated with other independent processes within the certificate holder's organization are documented. Written policies, procedures, or instructions and information that are interrelated and located in different manuals within the certificate holder's manual system must be consistent and complement each other. For the interfaces to be effectively managed, it is not only important to identify what the interfaces are, but it is imperative to document the specific location of the interfaces within the certificate holder's manual system.

Tasks	
	To meet this objective, the inspector must accomplish the following tasks:
1.	Review the interfaces associated with the Engine Condition Monitoring program that have been identified along with the individual questions in section 1, Procedures, of this DCT.
2.	Review the certificate holder's policies, procedures, instructions, and information to gain an understanding of the interfaces that it has documented.

Questions		
	To meet this objective, the inspector will answer the following questions:	
	Note: The design job task items (JTIs) displayed with the questions in section 1, Procedures, of this DCT identify potential interfaces (by element number) for this element.	
1.	Does the certificate holder s manual properly address the interfaces that are identified along with the questions in section 1, Procedures, of this DCT?	☐ Yes ☐ No, Explain
2.	Does the certificate holder s manual document a method for assessing the impact of any changes to the associated interfaces within the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain

SAI SECTION 4 - INTERFACES ATTRIBUTE Drop-Down Menu
1. No interfaces specified.
2. The following interfaces not identified within the Certificate Holder's manual system:
3. Interfaces listed are inaccurate.
4. Specific location of interfaces not identified within the manual system.
5. Other

SAI SECTION 5 - MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTES	
Objective: The questions in this section of the DCT address the responsibility and authority of the process. They are designed to assist the inspector in determining if there is a clearly identifiable, qualified, and knowledgeable person who is responsible for the process, is answerable for the quality of the process, and has the authority to establish and modify the process. (The person with the authority may or may not be the person with the responsibility.)	
Tasks	
	To meet this objective, the inspector must accomplish the following tasks:
1.	Identify the person who has overall responsibility for the Engine Condition Monitoring program.
2.	Identify the person who has overall authority for the Engine Condition Monitoring program.
3.	Review the duties and responsibilities of the person(s) documented in the certificate holder's manual.
4.	Review the appropriate organizational chart.

Questions		
	To meet this objective, the inspector must answer the following questions:	
1.	Does the certificate holder's manual clearly identify who is responsible for the quality of the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain Name/Title:
2.	Does the certificate holder's manual clearly identify who has authority to establish and modify the policies, procedures, instructions, and information for the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain Name/Title:
3.	Does the certificate holder's manual include the duties and responsibilities of those who manage the work required by the Engine Condition Monitoring program? SRRs: 121.135(b)(2)	☐ Yes ☐ No, Explain
4.	Does the certificate holder's manual include instructions and information for those who manage the work required by the Engine Condition Monitoring program? SRRs: 121.135(a)(1)	☐ Yes ☐ No, Explain
5.	Does the certificate holder s manual clearly and completely document the responsibility for this position?	☐ Yes ☐ No, Explain
6.	Does the certificate holder's manual clearly and completely document the authority for this position?	☐ Yes ☐ No, Explain
7.	Does the certificate holder's manual clearly and completely document its qualification standards for the person having responsibility for the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain
8.	Does the certificate holder's manual clearly and completely document its qualification standards for the person having authority to establish and modify the certificate holder's policies, procedures, instructions, and information for the Engine Condition Monitoring program?	☐ Yes ☐ No, Explain
9.	Does the certificate holder's manual clearly and completely document the procedures for delegation of authority for the Engine Condition Monitoring	☐ Yes

	program?	☐ No, Explain

SAI SECTION 5 - MANAGEMENT RESPONSIBILITY & AUTHORITY ATTRIBUTES Drop-Down Menu
1. Not documented.
2. Documentation unclear.
3. Documentation incomplete.
4. Other.